

# ABSTRACT

**RESEARCH PAPER:** Technologies for Precision Docking at Level-Boarding Platforms for Bus Rapid Transit Systems Using Low-Floor Buses

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This paper seeks to establish a reference guide for decision makers seeking to determine an appropriate precision docking technology to be used along a Bus Rapid Transit (BRT) line utilizing low-floor buses. It uses statistics and observations collected from industry experts, reports prepared on current systems and emerging technologies, and an investigation into the current literature. Five technologies were researched and separated into two categories, mechanical or electronic. The two electronic technologies are (1) magnetic guidance and (2) optical guidance. The three mechanical technologies are (1) the guide wheel, (2) the Kassel Kerb, and (3) the guide strip. A general overview and expected cost, performance, and general advantages and disadvantages of each technology is then given. After reviewing each technology, several supplemental technologies, primarily for use in conjunction with the mechanical technologies, are assessed for their use to help assist operators during precision docking. Finally, Appendix 2 addresses issues surrounding lug nut and fender flare protrusions and Appendix 3 presents system interoperability concerns, as both can cause of potential issues regardless of the technology utilized.